

### Remarks

Claims 1-18 are pending in the application. Claims 1-18 stand rejected. The Examiner rejected claims 1-12, 16 and 17 under 35 U.S.C. § 103(a) as allegedly obvious over Ayano et al. (4,383,903) in view of McCormick et al. (5,215,860) and further in view of Christie et al. (5,250,848). The Examiner rejected claims 1-12, 16 and 17 under 35 U.S.C. § 103(a) as being allegedly unpatentable over Gaku et al. (4,533,727) in view of McCormick et al. (5,215,860) and Shimp (4,709,008) and further in view of Christie et al. (5,250,848). The Examiner rejected Claims 8-12 as allegedly unpatentable under 35 U.S.C. 103(a) over Ayano et al. The Examiner rejected Claims 13-15 and 18 under 35 U.S.C. 103(a) as being allegedly unpatentable over Ayano et al., each in view of Christie et al. (5,250,848), as applied to claims 1, 7 and 8 above, and further in view of Swei (5,182,173). The Examiner rejected Claims 13-15 and 18 are rejected under 35 U.S.C. 103(a) as being allegedly unpatentable over Gaku et al. (4,533,727) in view of McCormick et al. (5,215,860) and Shimp (4,709,008) and further in view of Christie et al. (5,250,848), as applied to claims 1, 7 and 8 above, and further in view of Swei.

Applicant respectfully traverses the 35 U.S.C. § 103(a) rejections in the following discussion.

#### 35 U.S.C. § 103(a)

The Examiner rejected Claims 1-12, 16 and 17 under 35 U.S.C. §103(a) as allegedly unpatentable over Ayano et al. (4,383,903) in view of McCormick et al. (5,215,860) and further in view of Christie et al. (5,250,848). Applicants respectfully traverse the Examiner's rejection, maintaining the combination of Ayano et al. (4,383,903) in view of McCormick et al. (5,215,860) and further in view of Christie et al. (5,250,848) do not teach or suggest the

invention as now claimed. Applicants' Claims 1, 7 and 8 claim "a cyanate ester substance that includes a cationically polymerizable composition from only cyanate ester monomer, a cyanate ester prepolymer, or a mixture of the monomer and prepolymer" (Claims 1 and 7) which includes a toughener; or "polymerizable composition from only cyanate ester monomer" (Claim 8) which includes a toughener. Neither Ayano et al. nor McCormick et al. teach or suggest the invention as now claimed. Applicants respectfully assert that claims 1-12, 16 and 17 are in condition for allowance under 35 U.S.C. §103(a) because one skilled in the art would not be motivated to look to Ayano et al. (4,383,903) in view of McCormick et al.

The Examiner rejected Claims 1-12, 16 and 17 under 35 U.S.C. §103(a) as allegedly unpatentable over Gaku et al. (4,533,727) in view of McCormick et al. (5,215,860) and Shimp (4,709,008) and further in view of Christie et al. (5,250,848). Applicants respectfully traverse the Examiner's rejection maintaining that claims 1-12, 16 and 17 are patentable over Gaku et al. (4,533,727) in view of McCormick et al. (5,215,860) and Shimp (4,709,008) and further in view of Christie et al. (5,250,848) because Gaku et al. (4,533,727) in view of McCormick et al. (5,215,860) and Shimp (4,709,008) and further in view of Christie et al. (5,250,848) as now claimed. Applicants respectfully submit that one skilled in the art would not be motivated to combine Gaku et al. (4,533,727) in view of McCormick et al. (5,215,860) and Shimp (4,709,008) and further in view of Christie et al. (5,250,848) in order to arrive at the invention of Claims 1-12, 16 and 17. Applicants respectfully submit that Claims 1-12, 16, 17 are in condition for allowance under 35 U.S.C. §103(a) because the Examiner based the alleged rejection on the improper combination of Gaku et al. (4,533,727) in view of McCormick et al. (5,215,860) and Shimp (4,709,008) and further in view of Christie et al. (5,250,848).

The Examiner rejected Claims 8-12 as allegedly unpatentable under 35 U.S.C. 103(a) over Ayano et al. Applicants respectfully traverse the Examiner's rejection because Ayano et al. do not teach or suggest each and every element of Claims 8-12. Applicants' independent Claim 8 is patentable for the reasons stated above.

The Examiner rejected Claims 13-15 and 18 are rejected under 35 U.S.C. 103(a) as being allegedly unpatentable over Gaku et al. (4,533,727) in view of McCormick et al. (5,215,860) and Shimp (4,709,008) and further in view of Christie et al. (5,250,848), as applied to claims 1, 7 and 8 above, and further in view of Swei. Applicants respectfully traverse the Examiner's rejection, maintaining the combination of Gaku et al. (4,533,727) in view of McCormick et al. (5,215,860) and Shimp (4,709,008) and further in view of Christie et al. (5,250,848), as applied to claims 1, 7 and 8 above, and further in view of Swei is improper in view of the invention as now claimed in independent Claims 1, 7 and 8.

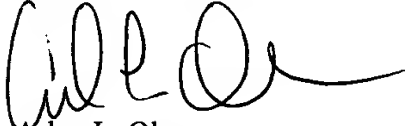
In light of the foregoing discussion, Applicants respectfully submit that independent Claims 1, 7 and 8 are in condition for allowance under 35 U.S.C. § 103(a) because the Examiner's alleged rejections under 35 U.S.C. § 103(a) are defective because Ayano *et al.*, Gaku *et al.* in view of McCormick et al., Shimp et al. or Swei et al. were improperly combined in view of Christie et al. Applicants respectfully consider claims 1-18 to be in condition for allowance.

### **CONCLUSION**

Applicants submit that the entire application is in condition for allowance. However, should the Examiner believe anything further is necessary in order to place the application in better condition for allowance, or if the Examiner believes that a telephone interview would be

advantageous to resolve the issues presented, the Examiner is invited to contact the Applicants' undersigned representative at the telephone number listed below.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'Arlen L. Olsen', with a long horizontal flourish extending to the right.

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## **Appendix - Identification of Amended Material**

### **IN THE CLAIMS:**

1. (FORTH AMENDED) A photoinduced polymerizable cyanate ester composition for use in reinforcing a bond, comprising:

a cyanate ester substance [comprised of] that includes a cationically polymerizable composition from only cyanate ester monomer, a cyanate ester prepolymer, or a mixture of the monomer and prepolymer;

an effective amount of a modifier for enhancing fracture properties of said bond and for assisting in reinforcing said bond, wherein the modifier includes a toughener;

a filler for controlling thermal expansion of said composition, and for assisting in reinforcing said bond;

[a surface treating agent]; and

a polymerization photoinitiator that includes [comprised of] a catalytically effective amount of an organometallic complex salt having a [metal] cation, upon photolysis, said polymerization photoinitiator liberating at least one coordination site and polymerizing the cyanate ester substance, wherein said [metal] cation in the organometallic complex is selected from the group consisting of elements of Periodic Groups IVB, VB, VIB, VIIB, and VIIIB.

2. (TWICE AMENDED) The photoinduced polymerizable cyanate ester composition of claim 1, wherein said effective amount of the modifier includes a [toughening agent] toughener comprised of elastomeric units.

7. (THRICE AMENDED) A process for providing a photoinduced polymerizable cyanate ester composition for use in reinforcing a bond, said process comprising the steps of:

providing a cyanate ester substance that includes [comprised of] a cationically polymerizable composition from only cyanate ester monomer, a cyanate ester prepolymer, or a mixture of the monomer and prepolymer;

adding to the cyanate ester substance an effective amount of a modifier for enhancing fracture properties of said bond and for assisting in reinforcing said bond, wherein the modifier includes a toughener;

adding to the cyanate ester substance an effective amount of a filler for controlling thermal expansion of said composition and for assisting in reinforcing said bond;

[adding to the cyanate ester substance an effective amount of a surface treating agent;]  
and

adding to the cyanate ester substance a polymerization photoinitiator that includes [comprised of] a catalytically effective amount of an organometallic complex salt having a [metal] cation, upon photolysis, the polymerization photoinitiator liberating at least one coordination site and curing the cyanate ester substance, wherein said [metal] cation in the organometallic complex is selected from the group consisting of elements of Periodic Groups IVB, VB, VIB, VIIB, and VIIIB.

8. (FORTH AMENDED) A lead protective composition for use in reinforcing a bond comprising the polymerization product of:[

- (a) ]a cyanate ester substance that includes only cyanate monomer [at least one cyanate monomer];[
- (b) ]a polymerization photoinitiator that includes [comprised of] a catalytically effective amount of an organometallic complex salt having a [metal] cation, the polymerization photoinitiator liberating at least one coordinative site and polymerizing the at least one cyanate monomer, wherein said [metal] cation in the organometallic complex is selected from the group consisting of Periodic Groups IVB, VB, VIB, VIIB, and VIIIB;[
- (c) ]a filler, for controlling thermal expansion of said composition, [and] for assisting in reinforcing said bond; and[
- (d) ]an effective amount of a modifier for enhancing fracture properties of the protective composition [as compared to a lead bond formed without a lead protective composition] and for assisting in reinforcing said bond, wherein the modifier includes a toughener[; and
- (e) a surface treating agent].

9. (AMENDED) The lead protective composition of claim 8, wherein said effective amount of the modifier includes elastomeric units.

12. (AMENDED) The lead protective composition of claim 8, wherein said effective amount

of the modifier includes elastomers, said elastomers reacting with said cyanate ester substance upon curing to form an epoxy terminated elastomer.

13. (AMENDED) The lead protective composition of claim 8, further comprising a [wherein said] surface treating agent [is] selected from the group consisting of vinyltrimethoxysilane, vinyltriethoxysilane, N(2-aminoethyl)3-aminopropyl methyldimethoxysilane, 3-aminopropylethoxysilane, 3- glycidoxypropyl trimethoxysilane, 3-glycidoxypropylmethyl dimethoxysilane and combinations thereof.

14. (AMENDED) The photoinduced polymerizable cyanate ester composition of claim 1, further comprising a [wherein the] surface treating agent [is] selected from the group consisting of vinyltrimethoxysilane, vinyltriethoxysilane, N(2-aminoethyl)3-aminopropyl methyldimethoxysilane, 3-aminopropylethoxysilane, 3- glycidoxypropyl trimethoxysilane, 3-glycidoxypropylmethyl dimethoxysilane and combinations thereof.

15. (AMENDED) The photoinduced polymerizable cyanate ester composition of claim 14 [1], wherein an amount of the surface treating agent [includes] is from about 3 to about 15 parts based on 100 parts of the composition.

18. (AMENDED) The process of claim 7, [wherein the adding of] further comprising adding a surface treating agent, wherein [further comprises] the surface treating agent is selected from the group consisting of vinyltrimethoxysilane, vinyltriethoxysilane,



N(2-aminoethyl)3-aminopropyl methyl dimethoxysilane, 3-aminopropylethoxysilane, 3-glycidoxypropyl trimethoxysilane, 3-glycidoxypropylmethyl dimethoxysilane and combinations thereof.